

Peter K Stys

List of Publications by Year in descending order

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108
papers

7,994
citations

53751

45
h-index

49868

87
g-index

109
all docs

109
docs citations

109
times ranked

8435
citing authors

#	ARTICLE	IF	CITATIONS
1	Virtual hypoxia and chronic necrosis of demyelinated axons in multiple sclerosis. <i>Lancet Neurology</i> , 2009, 8, 280-291.	4.9	524
2	Inefficient clearance of myelin debris by microglia impairs remyelinating processes. <i>Journal of Experimental Medicine</i> , 2015, 212, 481-495.	4.2	462
3	Will the real multiple sclerosis please stand up?. <i>Nature Reviews Neuroscience</i> , 2012, 13, 507-514.	4.9	406
4	Traumatic Axonal Injury Induces Calcium Influx Modulated by Tetrodotoxin-Sensitive Sodium Channels. <i>Journal of Neuroscience</i> , 2001, 21, 1923-1930.	1.7	381
5	Mechanisms of Ionotropic Glutamate Receptor-Mediated Excitotoxicity in Isolated Spinal Cord White Matter. <i>Journal of Neuroscience</i> , 2000, 20, 1190-1198.	1.7	283
6	General mechanisms of axonal damage and its prevention. <i>Journal of the Neurological Sciences</i> , 2005, 233, 3-13.	0.3	277
7	Anoxic and Ischemic Injury of Myelinated Axons in CNS White Matter: From Mechanistic Concepts to Therapeutics. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 1998, 18, 2-25.	2.4	267
8	White Matter Injury Mechanisms. <i>Current Molecular Medicine</i> , 2004, 4, 113-130.	0.6	238
9	Novel Injury Mechanism in Anoxia and Trauma of Spinal Cord White Matter: Glutamate Release via Reverse Na ⁺ -dependent Glutamate Transport. <i>Journal of Neuroscience</i> , 1999, 19, RC16-RC16.	1.7	215
10	Al ²⁺ neurotoxicity depends on interactions between copper ions, prion protein, and N-methyl-D-aspartate receptors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 1737-1742.	3.3	209
11	Traumatic Axonal Injury Induces Proteolytic Cleavage of the Voltage-Gated Sodium Channels Modulated by Tetrodotoxin and Protease Inhibitors. <i>Journal of Neuroscience</i> , 2004, 24, 4605-4613.	1.7	201
12	Immunosenescence of microglia and macrophages: impact on the ageing central nervous system. <i>Brain</i> , 2016, 139, 653-661.	3.7	199
13	Depolarization-Induced Ca ²⁺ Release in Ischemic Spinal Cord White Matter Involves L-type Ca ²⁺ Channel Activation of Ryanodine Receptors. <i>Neuron</i> , 2003, 40, 53-63.	3.8	188
14	Compound action potential of nerve recorded by suction electrode: a theoretical and experimental analysis. <i>Brain Research</i> , 1991, 546, 18-32.	1.1	179
15	Remyelination after spinal cord injury: Is it a target for repair?. <i>Progress in Neurobiology</i> , 2014, 117, 54-72.	2.8	155
16	Microglia response following acute demyelination is heterogeneous and limits infiltrating macrophage dispersion. <i>Science Advances</i> , 2020, 6, eaay6324.	4.7	130
17	Mechanisms of lysophosphatidylcholine-induced demyelination: A primary lipid disrupting myelinopathy. <i>Glia</i> , 2018, 66, 327-347.	2.5	124
18	Ultrastructural concomitants of anoxic injury and early post-anoxic recovery in rat optic nerve. <i>Brain Research</i> , 1992, 574, 105-119.	1.1	123

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19	Important Role of Reverse Na ⁺ -Ca ²⁺ Exchange in Spinal Cord White Matter Injury at Physiological Temperature. <i>Journal of Neurophysiology</i> , 2000, 84, 1116-1119.	0.9	117
20	Non-synaptic mechanisms of Ca ²⁺ -mediated injury in CNS white matter. <i>Trends in Neurosciences</i> , 1991, 14, 461-468.	4.2	116
21	Mechanisms of glutamate toxicity in multiple sclerosis: biomarker and therapeutic opportunities. <i>Lancet Neurology</i> , The, 2016, 15, 1089-1102.	4.9	112
22	The molecular physiology of the axo-myelinic synapse. <i>Experimental Neurology</i> , 2016, 276, 41-50.	2.0	106
23	Gray matter pathology in (chronic) MS: Modern views on an early observation. <i>Journal of the Neurological Sciences</i> , 2009, 282, 12-20.	0.3	105
24	Axo-myelinic neurotransmission: a novel mode of cell signalling in the central nervous system. <i>Nature Reviews Neuroscience</i> , 2018, 19, 49-58.	4.9	100
25	Ferroptosis Mediates Cuprizone-Induced Loss of Oligodendrocytes and Demyelination. <i>Journal of Neuroscience</i> , 2020, 40, 9327-9341.	1.7	95
26	Anoxic injury of rat optic nerve: ultrastructural evidence for coupling between Na ⁺ influx and Ca ²⁺ -mediated injury in myelinated CNS axons. <i>Brain Research</i> , 1994, 644, 197-204.	1.1	92
27	Copper-dependent regulation of NMDA receptors by cellular prion protein: implications for neurodegenerative disorders. <i>Journal of Physiology</i> , 2012, 590, 1357-1368.	1.3	91
28	Calpain-dependent neurofilament breakdown in anoxic and ischemic rat central axons. <i>Neuroscience Letters</i> , 2002, 328, 150-154.	1.0	88
29	White matter injury: Ischemic and nonischemic. <i>Glia</i> , 2014, 62, 1780-1789.	2.5	88
30	Protection of the axonal cytoskeleton in anoxic optic nerve by decreased extracellular calcium. <i>Brain Research</i> , 1993, 614, 137-145.	1.1	87
31	Excitatory Glycine Responses of CNS Myelin Mediated by NR1/NR3 α -NMDA Receptor Subunits. <i>Journal of Neuroscience</i> , 2010, 30, 11501-11505.	1.7	86
32	Na ⁺ -Dependent Sources of Intra-Axonal Ca ²⁺ Release in Rat Optic Nerve during In Vitro Chemical Ischemia. <i>Journal of Neuroscience</i> , 2005, 25, 9960-9967.	1.7	83
33	Biochemically altered myelin triggers autoimmune demyelination. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 5528-5533.	3.3	83
34	Multi-target-directed phenol-triazole ligands as therapeutic agents for Alzheimer's disease. <i>Chemical Science</i> , 2017, 8, 5636-5643.	3.7	79
35	White matter NMDA receptors: an unexpected new therapeutic target?. <i>Trends in Pharmacological Sciences</i> , 2007, 28, 561-566.	4.0	75
36	Real-time measurement of free Ca ²⁺ changes in CNS myelin by two-photon microscopy. <i>Nature Medicine</i> , 2007, 13, 874-879.	15.2	73

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37	Mechanisms of Injury-Induced Calcium Entry into Peripheral Nerve Myelinated Axons: Role of Reverse Sodium-Calcium Exchange. <i>Journal of Neurochemistry</i> , 1996, 66, 493-500.	2.1	72
38	Plasma Neurofilament Light: A Marker of Neurodegeneration in Mild Behavioral Impairment. <i>Journal of Alzheimer's Disease</i> , 2020, 76, 1017-1027.	1.2	68
39	Effects of polyvalent cations and dihydropyridine calcium channel blockers on recovery of CNS white matter from anoxia. <i>Neuroscience Letters</i> , 1990, 115, 293-299.	1.0	59
40	Innervated human corneal equivalents as in vitro models for nerve-target cell interactions. <i>FASEB Journal</i> , 2004, 18, 170-172.	0.2	59
41	Coherent anti-Stokes Raman scattering microscopy using photonic crystal fiber with two closely lying zero dispersion wavelengths. <i>Optics Express</i> , 2007, 15, 14028.	1.7	54
42	Cellular prion protein and NMDA receptor modulation: protecting against excitotoxicity. <i>Frontiers in Cell and Developmental Biology</i> , 2014, 2, 45.	1.8	54
43	Unique spectral signatures of the nucleic acid dye acridine orange can distinguish cell death by apoptosis and necroptosis. <i>Journal of Cell Biology</i> , 2017, 216, 1163-1181.	2.3	54
44	Ion Transport and Membrane Potential in CNS Myelinated Axons II. Effects of Metabolic Inhibition. <i>Journal of Neurophysiology</i> , 1997, 78, 2095-2107.	0.9	47
45	Immunolocalization of the Na ⁺ -Ca ²⁺ exchanger in mammalian myelinated axons. <i>Brain Research</i> , 1997, 776, 1-9.	1.1	46
46	Complex interplay between glutamate receptors and intracellular Ca ²⁺ stores during ischaemia in rat spinal cord white matter. <i>Journal of Physiology</i> , 2006, 577, 191-204.	1.3	46
47	Aberrant Chloride Transport Contributes to Anoxic/Ischemic White Matter Injury. <i>Journal of Neuroscience</i> , 2003, 23, 3826-3836.	1.7	45
48	Intracellular Concentrations of Major Ions in Rat Myelinated Axons and Glia: Calculations Based on Electron Probe X-Ray Microanalyses. <i>Journal of Neurochemistry</i> , 1997, 68, 1920-1928.	2.1	44
49	Functional Innervation in Tissue Engineered Models for In Vitro Study and Testing Purposes. <i>Toxicological Sciences</i> , 2004, 82, 525-533.	1.4	43
50	The axo-myelinic synapse. <i>Trends in Neurosciences</i> , 2011, 34, 393-400.	4.2	42
51	Axonal and myelinic pathology in 5xFAD Alzheimer's mouse spinal cord. <i>PLoS ONE</i> , 2017, 12, e0188218.	1.1	42
52	Miniaturized multimodal CARS microscope based on MEMS scanning and a single laser source. <i>Optics Express</i> , 2010, 18, 23796.	1.7	41
53	Treatment trials in progressive MS—current challenges and future directions. <i>Nature Reviews Neurology</i> , 2013, 9, 496-503.	4.9	40
54	Deficient Surveillance and Phagocytic Activity of Myeloid Cells Within Demyelinated Lesions in Aging Mice Visualized by Ex Vivo Live Multiphoton Imaging. <i>Journal of Neuroscience</i> , 2018, 38, 1973-1988.	1.7	40

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55	Reverse Operation of the Na ⁺ -Ca ²⁺ Exchanger Mediates Ca ²⁺ Influx during Anoxia in Mammalian CNS White Matter. <i>Annals of the New York Academy of Sciences</i> , 1991, 639, 328-332.	1.8	39
56	Axonâ€Myelin Unit Blistering as Early Event in <sc>MS</sc> Normal Appearing White Matter. <i>Annals of Neurology</i> , 2021, 89, 711-725.	2.8	39
57	Recent advances in understanding multiple sclerosis. <i>F1000Research</i> , 2019, 8, 2100.	0.8	39
58	Effects of Temperature on Evoked Electrical Activity and Anoxic Injury in CNS White Matter. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 1992, 12, 977-986.	2.4	38
59	The use-dependent sodium channel blocker mexiletine is neuroprotective against global ischemic injury. <i>Brain Research</i> , 2001, 898, 281-287.	1.1	38
60	Protective Effects of Antiarrhythmic Agents against Anoxic Injury in CNS White Matter. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 1995, 15, 425-432.	2.4	37
61	Pathoetiology of multiple sclerosis: are we barking up the wrong tree?. <i>F1000prime Reports</i> , 2013, 5, 20.	5.9	37
62	Nile Red fluorescence spectroscopy reports early physicochemical changes in myelin with high sensitivity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	36
63	Calpain Inhibitors Confer Biochemical, but Not Electrophysiological, Protection Against Anoxia in Rat Optic Nerves. <i>Journal of Neurochemistry</i> , 2008, 74, 2101-2107.	2.1	32
64	Fluorescent Phosphorus Dendrimer as a Spectral Nanosensor for Macrophage Polarization and Fate Tracking in Spinal Cord Injury. <i>Macromolecular Bioscience</i> , 2015, 15, 1523-1534.	2.1	31
65	Calcium imaging in live rat optic nerve myelinated axons in vitro using confocal laser microscopy. <i>Journal of Neuroscience Methods</i> , 2000, 102, 165-176.	1.3	29
66	Patrolling monocytes play a critical role in CX3CR1-mediated neuroprotection during excitotoxicity. <i>Brain Structure and Function</i> , 2015, 220, 1759-1776.	1.2	29
67	Axoâ€Glial communication through neurexinâ€neuroigin signaling regulates myelination and oligodendrocyte differentiation. <i>Glia</i> , 2015, 63, 2023-2039.	2.5	27
68	Nicotinic Acetylcholine Receptors in Mouse and Rat Optic Nerves. <i>Journal of Neurophysiology</i> , 2004, 91, 1025-1035.	0.9	26
69	Acute Anterior Circulation Stroke: Recanalization Using Clot Angioplasty. <i>Canadian Journal of Neurological Sciences</i> , 2006, 33, 217-222.	0.3	25
70	Mechanisms of injury-induced calcium entry into peripheral nerve myelinated axons: in vitro anoxia and ouabain exposure. <i>Brain Research</i> , 1995, 694, 158-166.	1.1	24
71	Ion Transport and Membrane Potential in CNS Myelinated Axons I. Normoxic Conditions. <i>Journal of Neurophysiology</i> , 1997, 78, 2086-2094.	0.9	21
72	Ionotropic glutamate receptor expression in human white matter. <i>Neuroscience Letters</i> , 2016, 630, 1-8.	1.0	20

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73	Mechanistic underpinning of an inside-out concept for autoimmunity in multiple sclerosis. <i>Annals of Clinical and Translational Neurology</i> , 2021, 8, 1709-1719.	1.7	20
74	Skin-derived precursor schwann cell myelination capacity in focal tibial demyelination. <i>Muscle and Nerve</i> , 2014, 50, 262-272.	1.0	19
75	Functional ionotropic glutamate receptors on peripheral axons and myelin. <i>Muscle and Nerve</i> , 2016, 54, 451-459.	1.0	18
76	Inhibitors of protein arginine deiminases and their efficacy in animal models of multiple sclerosis. <i>Bioorganic and Medicinal Chemistry</i> , 2017, 25, 2643-2656.	1.4	18
77	Effects of K ⁺ channel blockers on the anoxic response of CNS myelinated axons. <i>NeuroReport</i> , 1998, 9, 447-453.	0.6	17
78	Effects of the Noradrenergic System in Rat White Matter Exposed to Oxygen-Glucose Deprivation <i>In Vitro</i> . <i>Journal of Neuroscience</i> , 2009, 29, 1796-1804.	1.7	17
79	Na ⁺ -Ca ²⁺ Exchange in Anoxic/Ischemic Injury of CNS Myelinated Axons. <i>Annals of the New York Academy of Sciences</i> , 1996, 779, 366-378.	1.8	15
80	Role of prions in neuroprotection and neurodegeneration. <i>Prion</i> , 2009, 3, 187-189.	0.9	15
81	High-resolution fluorescence microscopy of myelin without exogenous probes. <i>NeuroImage</i> , 2014, 87, 42-54.	2.1	14
82	Abnormalities in normal-appearing white matter from which multiple sclerosis lesions arise. <i>Brain Communications</i> , 2021, 3, fcab176.	1.5	13
83	Subcellular localization of hippocampal ryanodine receptor 2 and its role in neuronal excitability and memory. <i>Communications Biology</i> , 2022, 5, 183.	2.0	12
84	Early detection of prion protein aggregation with a fluorescent pentameric oligothiophene probe using spectral confocal microscopy. <i>Journal of Neurochemistry</i> , 2021, 156, 1033-1048.	2.1	9
85	Complex Photophysical Properties of K114 Make for a Versatile Fluorescent Probe for Amyloid Detection. <i>ACS Chemical Neuroscience</i> , 2021, 12, 1273-1280.	1.7	9
86	Reoxygenation of anoxic peripheral nerve myelinated axons promotes re-establishment of normal elemental composition. <i>Brain Research</i> , 1996, 715, 189-196.	1.1	8
87	REVIEW — : The Na-Ca Exchanger in Neurons and Glial Cells. <i>Neuroscientist</i> , 1996, 2, 162-171.	2.6	8
88	Excitation parameters optimized for coherent anti-Stokes Raman scattering imaging of myelinated tissue. <i>Journal of Biomedical Optics</i> , 2019, 24, 1.	1.4	8
89	Quantitative detection of grey and white matter amyloid pathology using a combination of K114 and CRANAD-3 fluorescence. <i>Neurobiology of Disease</i> , 2021, 161, 105540.	2.1	8
90	Spatiotemporal Distribution of Spectrin Breakdown Products Induced by Anoxia in Adult Rat Optic Nerve <i>In Vitro</i> . <i>Journal of Cerebral Blood Flow and Metabolism</i> , 2006, 26, 777-786.	2.4	7

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91	Sodium channel blockers as neuroprotectants in neuroinflammatory disease: a double-edged sword. <i>Annals of Neurology</i> , 2007, 62, 3-5.	2.8	7
92	Effects of laser polarization on responses of the fluorescent Ca ²⁺ indicator X-Rhod-1 in neurons and myelin. <i>Neurophotonics</i> , 2017, 4, 025002.	1.7	7
93	A novel approach to 32-channel peripheral nervous system myelin imaging in vivo, with single axon resolution. <i>Journal of Neurosurgery</i> , 2018, 130, 163-171.	0.9	7
94	Label-free assessment of myelin status using birefringence microscopy. <i>Journal of Neuroscience Methods</i> , 2021, 360, 109226.	1.3	7
95	The triple monoamine re-uptake inhibitor DOV 216,303 promotes functional recovery after spinal cord contusion injury in mice. <i>Neuroscience Letters</i> , 2018, 675, 1-6.	1.0	6
96	Neurobase: a general-purpose program for acquisition, storage and digital processing of transient signals using the Apple Macintosh II computer. <i>Journal of Neuroscience Methods</i> , 1991, 37, 47-54.	1.3	5
97	Autofluorescence spectroscopy as a proxy for chronic white matter pathology. <i>Multiple Sclerosis Journal</i> , 2021, 27, 1046-1056.	1.4	4
98	Spectral photokinetic conversion of the fluorescent probes BSB and K114 for improved detection of amyloid assemblies. <i>Journal of Biophotonics</i> , 2021, 14, e202100203.	1.1	4
99	Glutamate-Induced White Matter Injury: Excitotoxicity without Synapses. <i>Neuroscientist</i> , 2000, 6, 230-233.	2.6	3
100	Diagnosing Alzheimer's Disease from Circulating Blood Leukocytes Using a Fluorescent Amyloid Probe. <i>Journal of Alzheimer's Disease</i> , 2022, 85, 1721-1734.	1.2	3
101	Two steps forward for myelin repair in multiple sclerosis. <i>Lancet Neurology</i> , The, 2018, 17, 297-298.	4.9	2
102	Editors' Preface: The Colourful White Matter. <i>Glia</i> , 2014, 62, 1747-1748.	2.5	1
103	We should focus more on finding therapeutic targets for the non-inflammatory damage in MS " Commentary. <i>Multiple Sclerosis Journal</i> , 2018, 24, 1276-1277.	1.4	1
104	Myelocortical multiple sclerosis: a new disease subtype?. <i>Lancet Neurology</i> , The, 2018, 17, 832-834.	4.9	1
105	Traumatic Injury Reduces Amyloid Plaque Burden in the Transgenic 5xFAD Alzheimer's Mouse Spinal Cord. <i>Journal of Alzheimer's Disease</i> , 2020, 77, 1315-1330.	1.2	1
106	P3178: Development of a Diagnostic Tool for Alzheimer's Disease: Detecting Toxic AB Species from Blood Using Spectral Microscopy. <i>Alzheimer's and Dementia</i> , 2016, 12, P888.	0.4	0
107	O1-05-05: Detection of Early Alzheimer's Disease From Blood Using Novel Microspectroscopy. , 2016, 12, P184-P185.		0
108	P1275: AMIRASPEC: A BLOOD-BASED DIAGNOSTIC FOR ALZHEIMER'S DISEASE USING SPECTRAL MICROSCOPY. <i>Alzheimer's and Dementia</i> , 2018, 14, P387.	0.4	0